

REMARKS

The Examiner stated that dependent Claims 22 through 30 were directed to an invention that was independent or distinct from the elected invention and, therefore, were withdrawn from consideration. This withdrawal is respectfully traversed.

Claims 22 through 30 all depend from independent Claim 21, which is not directed to an invention that is independent or distinct from the elected invention. Additionally, the subject matter of dependent Claims 22 through 30 is the same as the subject matter of dependent Claims 12 through 20, which are directly to the elected invention. Thus, it is believed that dependent Claims 22 through 30 are not directed to an invention that is independent or distinct from the elected invention and, therefore, should not be withdrawn from consideration.

The Examiner objected to the drawings because the arm portions mentioned on Page 10, Lines 15-19 were not illustrated. This objection is respectfully traversed. The arm portions are not recited in the claims, and the structures thereof are clearly described in the specification (such arm portions “extend axially through the housing 21 and the end of the tube yoke 15a so as to be easily reached and manipulated by conventional tools”). Thus, amendments to the drawings are not believed to be necessary.

The Examiner rejected Claims 11 through 21 under 35 U.S.C. 101 as being inoperative because “the respective arm portions required to assemble the assembly would impart an imbalance unaccounted for in the assembly.” This rejection is not understood. None of the claims pending in the application recite the presence of such arm portions. Rather, the specific mechanism that is used to position the first and second discs (and, thus, the object) relative to the article is not specified in any of the claims (except in Claims 20 and 30, wherein motors for accomplishing this result are recited). It is believed that the arm portions are neither necessary nor required to be positively stated in the claims. Accordingly, this rejection should be withdrawn.

The Examiner also rejected Claims 17 through 20 under 35 U.S.C. 101 as lacking patentable utility because of the recitation of the control system for moving the first and second discs relative to one another to vary the position of the object relative to the unbalanced article. This rejection is respectfully traversed. The control system

is provided to move the first and second discs relative to one another so as to achieve the relationship set forth in Claim 11, wherein the first and second discs are positioned relative to one another to position the object relative to the unbalanced article.

Accordingly, this rejection should be withdrawn.

The Examiner rejected Claims 11 through 21 under 35 U.S.C. 112, first paragraph, as containing subject matter that was not described in an enabling manner in the specification, specifically in connection with the arm portions discussed above. This rejection is respectfully traversed. As mentioned above, none of the claims pending in the application recite the presence of such arm portions. The specific mechanism that is used to position the first and second discs (and, thus, the object) is not specified in any of the claims (except in Claims 20 and 30, wherein motors for accomplishing this result are recited). It is believed that the arm portions are neither necessary nor required to be positively stated in the claims. Furthermore, it is believed that additional discussion of such arm portions in the specification is unnecessary.

Accordingly, this rejection should be withdrawn.

The Examiner rejected Claims 11 through 21 under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 13 through 15 have been amended to address the issue noted by the Examiner. Claim 17 includes the control system discussed above. As discussed at Page 11, Lines 16-17, the “control system can be disposed and supported within the driveshaft tube 14 or at any other desired location.” Thus, it is believed that the scope of Claims 17 through 20 is clear. Accordingly, this rejection should be withdrawn.

The Examiner rejected independent Claims 11 and 21 as being anticipated by any of the Trumpler, Wyman, Lohaus et al., and Tsai references. These rejections are respectfully traversed in light of the amended language of independent Claims 11 and 21.

Claim 11 now defines the invention as an assembly that is balanced for rotation including a hollow article that is unbalanced for rotation and a balance correction device supported within the hollow unbalanced article. The balance correction device includes a housing that is supported within the hollow unbalanced article, a first disc disposed within the housing and having a first slot provided therein, a second disc

disposed within the housing and having a second slot provided therein, and an object disposed within the housing and received within the first and second slots. The first and second discs are positioned relative to one another to position the object relative to the unbalanced article to balance the assembly for rotation. Claim 21 defines the invention as a method of balancing an unbalanced article for rotation in a similar manner.

The Trumpler reference discloses a structure for balancing a rotor for rotation that includes a hollow quill 1 that is adapted to be supported on the outer surface of the rotor 1. A sleeve member 4 is journalled on the rotor 1 for rotation relative thereto, and a pair of flanged sleeves 10 and 11 are journalled on the sleeve member for rotation relative thereto. A pair of rings 15 are eccentrically supported on flange portions respectively associated with the sleeve member 4 and the flange sleeves 10 and 11, and a pair of double-faced pinions 20a and 20b engage outer gear teeth provided on the quill 1, the sleeve member 4, and the flanged sleeves 10 and 11 for positioning the rings 15 to balance the assembly. Claim 21 defines the invention as a method of balancing an unbalanced article for rotation in a similar manner.

Thus, the Trumpler reference does not show or suggest a hollow article that is unbalanced for rotation and a balance correction device supported within the hollow unbalanced article, as specifically claimed. Additionally, the Trumpler reference does not show or suggest a housing that is supported within the hollow unbalanced article, a first disc disposed within the housing and having a first slot provided therein, a second disc disposed within the housing and having a second slot provided therein, and an object disposed within the housing and received within the first and second slots, all as specifically claimed. On the contrary, the structure disclosed in the Trumpler reference is completely incapable of being supported within a hollow unbalanced article for rotationally balancing same. Furthermore, there is no motivation whatsoever contained within the Trumpler reference that would lead a person of ordinary skill in the art to modify the structure disclosed in the Trumpler reference to make it suitable to be supported within a hollow unbalanced article for rotationally balancing same. Thus, the claimed invention is clearly patentable over the Trumpler reference.

The Wyman reference discloses a balancing structure that is supported within a hollow shaft. However, the Wyman reference does not show or suggest first and second discs that are positioned relative to one another to position the object relative to the unbalanced article to balance the assembly for rotation, as specifically claimed. Rather, the outer wall 13, the side wall 14, and the cover 15 merely provide a raceway within which the two balls 12 can freely move (see Column 2, Lines 29-30) until secured in position by adhesive. Thus, the claimed invention is clearly patentable over the Wyman reference.

The Lohaus et al. reference discloses a torsional vibration for damper for transmitting torque from an input member to an output member. The Lohaus et al. reference does not show or suggest any structure for balancing an article for rotation. Thus, the claimed invention is clearly patentable over the Lohaus et al. reference.

Lastly, the Tsai reference discloses an Oldham-type coupling for a cyclically unbalanced mechanism. However, the Tsai reference does not show or suggest a hollow article that is unbalanced for rotation and a balance correction device supported within the hollow unbalanced article, as specifically claimed. Additionally, the Tsai reference does not show or suggest a housing that is supported within the hollow unbalanced article, a first disc disposed within the housing and having a first slot provided therein, a second disc disposed within the housing and having a second slot provided therein, and an object disposed within the housing and received within the first and second slots, all as specifically claimed. Thus, the claimed invention is clearly patentable over the Tsai reference.

Respectfully submitted,



Richard S. MacMillan
Reg. No. 30,085

MacMillan, Sobanski & Todd, LLC
One Maritime Plaza, Fourth Floor
720 Water Street
Toledo, Ohio 43604
(419) 255-5900